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|--|-------------|----------------------|------------------------------|------------------------|
| 10/526,703   | 10/03/2005  | Hermann Franzen      | MOS01 P-120                  | 7438                   |
| 28101 7590 10/16/2007<br>VAN DYKE, GARDNER, LINN & BURKHART, LLP<br>SUITE 207<br>2851 CHARLEVOIX DRIVE, S.E.<br>GRAND RAPIDS, MI 49546 |             |                      | EXAMINER<br>ADAMS, GREGORY W |                        |
|  |             |                      | ART UNIT<br>3652             | PAPER NUMBER           |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/526,703

Applicant(s)

FRANZEN ET AL.

Examiner

Gregory W. Adams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent-term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Information Disclosure Statement***

The information disclosure statement filed March 4, 2005 fails in part to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Complete copies of the Japanese references 10330078 and 143154 could not be found through alternative searching. Thus, duplicate copies as required by the MPEP are respectfully requested. The IDS has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 20-21, 27 & 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawase (JP 11-278790 A) (previously cited).

With respect to claim 1, Kawase discloses a transfer plant comprising:

- a vertical support 4, 5 which is propped up at a land side 2 and on which a horizontal extension arm 8 braced by a vertical support 4, 5, wherein a horizontal extension arm protrudes across a ship 22 that is to be unloaded on a sea side (indicated generally as 22);

- a horizontal conveying device 17, 26 (it is noted that Kawase defines "lengthwise" in FIG. 3);
- land-side and sea-side hoisting and lowering devices 11, 12 that pick up and put down containers;
- hoisting and lowering devices are arranged at the land 2 and sea side 22 and also on a horizontal extension arm 8;
- wherein a conveying device comprises at least two horizontal conveying devices 17, 26 arranged generally parallel (FIG. 3) to each other on a horizontal extension arm 8; and
- containers on conveying devices are conveyed generally parallel to one another. Fig. 3.

With respect to claim 2, Kawase discloses including intermediate storage devices 17A, 26A arranged on a horizontal extension arm 8 in a region of at least one chosen from a land-side 12 and a sea-side 11 hoisting and lowering devices.

With respect to claim 20, Kawase discloses a railway (indicated generally as 9a) carried by a sea-side portion of a horizontal extension arm wherein a railway is for movement of a trolley 9 of a sea-side hoisting and lowering device, wherein a land-side hoisting and lowering device 12 is fastened at a land-side portion of a horizontal extension arm, a transfer plant further including other railways (indicated generally as 17b and 26b) for horizontal conveying devices are arranged on both sides next to a railway of a sea-side hoisting and lowering device and next to a land-side hoisting and lowering device essentially along the entire horizontal extension arm. FIG. 3.

With respect to claim 21, Kawase discloses a tower-shaped vertical support 4, 5, 20 wherein a railway for a hoisting and lowering device ends in a region of a vertical support 4, 5, and other railways for said horizontal conveying devices run laterally past a vertical support.

With respect to claim 27, Kawase discloses a land-side hoisting and lowering device comprises a trolley 11, guided on a horizontal hoisting beam 7, with a load suspension means 9, wherein a hoisting beam 10 is suspended from hoisting cables 11 and linked by a cross rail 9 to guide rollers, and a vertical support 7.

With respect to claim 30, Kawase discloses a gantry type substructure 4, 5, 6, 20, supported on rail traversing mechanisms 3, wherein an extension arm 8 protrudes across a substructure 2, 19 on a land side, and a vertical support is propped up centrally on a substructure 2 at a land side.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Martin et al. (US 4,546,852) (previously cited).

With respect to claims 3 & 19, Kawase discloses a rigid sea-side base arm 7 and a rigid land-side arm 8 fastened to a vertical support 4, 5, wherein a rigid sea-side base arm 7 accommodates a sea-side hoisting and lowering device 9, and does not explicitly

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disclose a swivel arm joined at a sea side. Martin et al. disclose a swivel arm 14, 22 for compact shipment and as well as retraction to reduce a hazardous condition to ship traffic. C1/L25-35. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arm of Kawase to include a swivel arm, as per the teachings of Martin et al., for shipment and safety.

With respect to claim 4, Kawase discloses a railway (indicated generally as 9a) carried by a sea-side portion of a horizontal extension arm wherein a railway is for movement of a trolley 9 of a sea-side hoisting and lowering device, wherein a land-side hoisting and lowering device 12 is fastened at a land-side portion of a horizontal extension arm, a transfer plant further including other railways (indicated generally as 17b and 26b) for horizontal conveying devices are arranged on both sides next to a railway of a sea-side hoisting and lowering device and next to a land-side hoisting and lowering device essentially along the entire horizontal extension arm. FIG. 3.

With respect to claim 5, Kawase discloses a tower-shaped vertical support 4, 5, 20 wherein a railway for a hoisting and lowering device ends in a region of a vertical support 4, 5, and other railways for said horizontal conveying devices run laterally past a vertical support.

Claims 6-9 & 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Martin et al. and Tax et al. (US 5,931,625) (previously cited).

With respect to claims 6-7, 9 & 25, Kawase discloses an intermediate storage device, and does not disclose a column, horizontal swivel arm and carrying frame that rotate +/- 90 degrees. Tax et al. disclose in FIG. 8a a downwardly extending support

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column 558, horizontal swivel arm 556 and carrying frame 522 such that between the carrying frame 522 and water trolley 528 the position of two containers can be changed reducing unloading cycle time. C13/L40-C14/L15. Tax's swivel arm rotates +/- 90 degrees for compact shipment and as well as retraction to reduce a hazardous condition to ship traffic. C1/L25-35. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arm of Kawase to include a swivel +/- 90 degrees, as per the teachings of Martin et al., for shipment and safety. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include a column, horizontal swivel arm and carrying frame, as per the teachings of Tax et al., to decrease unloading time.

With respect to claims 8 & 24, Kawase does not disclose a parallelogram coupler mechanism. Martin discloses a conveying device 19 having a parallelogram coupler 45 to reduce a hazardous condition to ship traffic. C1/L25-35. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include parallelogram coupler mechanism, as per the teachings of Martin et al., for shipment and safety.

Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Martin et al., Tax et al. and Spies (DE 3342849 A1) (previously cited).

With respect to claim 10, Kawase discloses a frame 17, 26 with a rail traversing mechanism that can travel on a railways 7a, 7b, and does not disclose a hoisting

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mechanism and a spreader. Spies discloses a horizontal conveying device 25 which further comprises a hoisting mechanism 27 and a spreader 31 to allow "easy transfer of containers between cranes working on adjacent tracks." Spies Abstract. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the horizontal conveying device of Kawase to include a hoisting mechanism and spreader, as per the teachings of Spies, to ease the transfer of containers between adjacent tracks.

With respect to claim 11, Kawase discloses lift 11 guided on a vertical support 4, 5 wherein a lift comprises a trolley 7c, guided on a horizontal hoisting beam 7, with a load suspension means 11 for a container, wherein a hoisting beam 10 is suspended from hoisting cables 11 and linked by a cross rail 9 to guide rollers 9a.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Martin et al., Tax et al., Spies and Young (US 3,543,952) (previously cited).

With respect to claim 12, Kawase discloses cables and does not disclose a mobile counterweight. Young discloses a counterweight 166 for handling especially large, heavily loaded containers at a shipping terminal and improves efficiency. C1. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include a counterweight, as per the teachings of Young, to handling heavily loaded containers at a higher rate.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Martin et al., Tax et al., Spies, Young and Weis (WO 9835905 A2; or see translation at US 2002/0031419) (previously cited).



With respect to claim 13, Kawase discloses loading stations and does not disclose loading stations having two pick-up and hand-off positions that can travel alternately. Weis discloses a loading station that is arranged beneath a land-side hoisting and lowering device 17, a loading station having two pick-up and hand-off positions 5, 5 that can travel alternately underneath said hoisting and lowering device, cooperating with a horizontal conveying system such that containers can be handled on land. Weis Abstract. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include two pick-up and hand-off positions that can travel alternately, as per the teachings of Weis, for support on land of containers coming to and/or going from a transfer plant.

With respect to claim 14, Kawase discloses a gantry type substructure, supported on said rail traversing mechanisms, wherein said extension arm protrudes across said substructure on the land side, and said vertical support is propped up centrally on said substructure at the land side.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Spies and Tax et al.

Kawase discloses a method of loading and unloading of containers from container ships comprising:

- a) for the unloading of containers from a container ship tied up at the dock, providing a spreader 10 and picking up a container 21 by a spreader of a sea-

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- side 11 hoisting and lowering device, which has been positioned on a horizontal extension arm 7 above a container 21, and raised to a maximum hoisting height;
- b) providing a carrying arm having a carrying frame 17a at an intermediate storage device arranged on a sea-side device 17;
  - c) placing a container down on the carrying frame (FIG. 3);
  - d) positioning at least one horizontal conveying device 17 above a container on a carrying frame receiving a container and transporting a container to an end of a land-side extension arm 6, while a sea-side 9 hoisting and lowering device picks up a new container;
  - e) handing off a container at a land-side 3 end of an extension arm 6 to a carrying frame of a second intermediate storage device 26;
  - f) after detaching a container from a horizontal conveying device 26 moving a carrying frame with a container under a hoisting mechanism of a hoisting and lowering device hinged to a land-side extension arm and picking up a container is by a spreader 13;
  - g) moving a carrying frame and lowering a container by a hoisting and lowering device and handing off a container to a horizontal conveying system 21 on a ground;
  - h) concurrently with steps a through g, picking up a second container picked up by a sea-side hoisting and lowering device and transporting a second container by a second horizontal conveying device across its other railway to the end of the extension arm at the land side, where the second container is handled in the

same fashion, wherein a second horizontal conveying device is positioned generally parallel to a first horizontal conveying device, wherein a second container is conveyed generally parallel to a container on a first conveying device, and

- i) performing the steps a through h in reverse sequence for loading containers on a ship.

Kawase does not disclose providing a horizontally swiveling carrying arm having a horizontally swiveling carrying frame, swiveling a container along with a carrying frame, a downwardly extending support column or swiveling a carrying frame after detaching a container from a horizontal conveying device.

Spies discloses a horizontally swiveling carrying arm (FIG. 9: 41, 91) attached to a hoisting and lowering device 27, swiveling a container along with a carrying frame 41 and swiveling a carrying frame after detaching a container from a horizontal conveying device such that the transfer device can also be arranged between the traveling crab and the primary load-carrying means, and the latter can then at the same time be used as the load-carrying means of the transfer device. Spies Abstract. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include a horizontally swiveling carrying arm attached to a hoisting and lowering device, swiveling a container along with a carrying frame and swiveling a carrying frame after detaching a container from a horizontal conveying device, as per the teachings of Spies, to create a buffer support surface between two bridge cranes operating independently.

Kawase discloses an intermediate storage device, and does not disclose a downwardly extending support column that swivels. Tax et al. discloses in FIG. 8a a downwardly extending support column 558, horizontal swivel arm 556 and carrying frame 522 such that between the carrying frame 522 and water trolley 528 the position of two containers can be changed reducing unloading cycle time. C13/L40-C14/L15. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include a downwardly extending support column that swivels, as per the teachings of Tax et al., to decrease unloading time.

Claims 22 & 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Tax et al.

With respect to claims 22 & 23, Kawase discloses an intermediate storage device 17, 26, and does not disclose a column, horizontal swivel arm and carrying frame that rotate +/- 90 degrees. Tax et al. disclose in FIG. 8a a downwardly extending support column 558, horizontal swivel arm 556 and carrying frame 522 such that between the carrying frame 522 and water trolley 528 the position of two containers can be changed reducing unloading cycle time. C13/L40-C14/L15. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include a column, horizontal swivel arm and carrying frame, as per the teachings of Tax et al., to decrease unloading time.

Martin's swivel arm rotates +/- 90 degrees for compact shipment and as well as retraction to reduce a hazardous condition to ship traffic. C1/L25-35. Therefore, it would

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have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arm of Kawase to include a swivel +/- 90 degrees, as per the teachings of Martin et al., for shipment and safety.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Spies (DE 3342849 A1) (previously cited).

With respect to claim 26, Kawase discloses a frame 17, 26 with a rail traversing mechanism that can travel on a railways 7a, 7b, and does not disclose a hoisting mechanism and a spreader. Spies discloses a horizontal conveying device 25 which further comprises a hoisting mechanism 27 and a spreader 31 to allow "easy transfer of containers between cranes working on adjacent tracks." Spies Abstract. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the horizontal conveying device of Kawase to include a hoisting mechanism and spreader, as per the teachings of Spies, to ease the transfer of containers between adjacent tracks.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Young.

With respect to claim 28, Kawase discloses cables 11 and does not disclose a mobile counterweight. Young discloses a counterweight 166 for handling especially large, heavily loaded containers at a shipping terminal and improves efficiency. C1. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include a counterweight, as per the teachings of Young, to handling heavily loaded containers at a higher rate.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase in view of Weis.

With respect to claim 29, Kawase discloses loading stations and does not disclose loading stations having two pick-up and hand-off positions that can travel alternately. Weis discloses a loading station that is arranged beneath a land-side hoisting and lowering device 17, a loading station having two pick-up and hand-off positions 5, 5 that can travel alternately underneath said hoisting and lowering device, cooperating with a horizontal conveying system such that containers can be handled on land. Weis Abstract. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kawase to include two pick-up and hand-off positions that can travel alternately, as per the teachings of Weis, for support on land of containers coming to and/or going from a transfer plant.

### ***Response to Arguments***

Applicant arguments filed Sept. 24, 2007 with respect to the lack of treatment in the June 22, 2007 office action of claims 22-25 is persuasive. The above rejection newly addresses these claims. The examiner regrets any inconvenience this may have caused.

With respect to conveying in parallel, Kawase's FIG. 3 shows conveying devices that are parallel inasmuch as they are aligned in a parallel relationship. And with respect to swiveling, Applicant is respectfully reminded the patentability is based on structure that is positively recited in the claims. No swiveling mechanism in claim 26. Claim 26

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merely requires a hoist and spreader which Spies clearly discloses. And, applicants arguments directed to the lack of identification of features recited in the claims have been addressed above. It is the examiners position that the figures properly set out the structure in the claims as identified by the cited reference characters in the rejection above.

In response to applicants arguments that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the cited prior art each are directed to quay crane unloading. A skilled artisan looking to address speed or throughput would look in this field to solve problems related to transfer rates and buffering containers during an unloading cycle.


### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory W. Adams whose telephone number is (571) 272-8101. The examiner can normally be reached on M-Th, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on (571) 272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GWA  
  
10/11/07